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ABSTRACT

This paper describes the range and scope of various information databases available for technicians, researchers, and managers employed in forestry and the forest products industry. Availability of information on reports of field and laboratory research, business trends, product prices, and company profiles through national distributors of bibliographic, numeric, and full-text databases is discussed. The paper also reviews the capabilities and limitations of online searching, explains some of the options and differences between distributors and databases, and highlights those systems that are presently available to individual professionals. A synopsis of issues involved in downloading and the subsequent need for personal literature file management software is also addressed. Appendices, which constitute more than half the report, cover Microcomputer Access to Online Information; Selected Access Software for Online Information Systems; Major Vendors/Distributors of Databases; Comparison of Selected Online Systems; Comparison of BRS/After Dark with Dialog's Knowledge Index; Sample BRS/After Dark Login and Search; EasyNet Sample Search Screens; A Selective List of Online Database Guides and Directories; and Recommended Personal Bibliographic File Managers. (Author/THC)

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ONLINE SEARCHING OF BIBLIOGRAPHIC DATABASES:
MICROCOMPUTER ACCESS TO NATIONAL INFORMATION SYSTEMS *

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Keywords:

Online systems, information retrieval, information systems, online
searching, bibliographic databases, microcomputers, end-users.

Abstract:

Technicians, researchers and managers employed in forestry and the
forest products industry need rapid access to relevant information
in order to make effective business, product and research
decisions. Information on reports of field and lab research,
business trends, product prices and company profiles is available
through several national distributors of bibliographic, numeric
and full-text databases. Sources such as the Bibliography of
Agriculture (a USDA database), Biological and Agricultural Index
and Forestry Abstracts are accessible to anyone with
modern-equipped microcomputers. This paper describes the range and
scope of the various information databases, reviews the
capabilities and limitations of online searching, explains some of
the options and differences between distributors and databases,
and highlights those systems which are presently available to
individual professionals. A synopsis of issues of downloading and
the subsequent need for personal literature file management
software is also addressed.

*Paper presented at Software Solutions, the Second Annual Computer
Symposium and Software Fair, Louisville, Kentucky, April 21-24,
1985. (Forest Resources Systems Institute and Forest Products
Research Society)

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INTRODUCTION

Someone - I think it was Emerson - once said that a weed is a plant which man hasn't as yet found a use for. Information, likewise, is data awaiting meaningful use and pertinent application. When someone perceives the significance and value of any type of data, it becomes information and in the process accrues recognizable worth. The reality of today's America focuses on information as a commodity (8, 63), the creation, diffusion and use of which has transformed our economy from one based on industry to one based on information. (21, 1)

Adequate, reliable information allows us to make rational decisions and take effective actions; any practicing forester, extension worker, scientist, technician or administrator needs to be able "to understand and analyze large amounts of data dealing with complex issues, synthesize them, develop alternatives and present them as succinctly and clearly as possible ..." (24, 726). This process of analysis, synthesis and presentation is only as effective as the quality, variety and accuracy of the original information. Irrelevant, inaccurate or inadequate information affects our personal and professional credibility, the substance of our recommendations and the reliability of our decisions. Unfortunately, the

"information resources needed for decision making and problem solving are, in the aggregate, disorganized, fragmented and compartmentalized" (10, 9) and some proportion of them will always be so.

The challenge to achieve a modicum of control over errant data is an ongoing one. Various information technologies have been brought to bear on the problem and over the years the process has wrought significant improvements in data control and access by establishing nationally available online databases.

DATABASE DEFINITIONS

A database is a vast and continuously updated file of information, stored in some electronic form or medium, which is accessible to a large number of disparate users located in different places physically remote from the host computer. Users should be able to retrieve information from the database with a minimum of delay, confusion or difficulty and receive an end product in a variety of formats. Recent surveys indicate that over 2,450 online databases are presently available and three new databases are being added every business day. These databases have been developed by

1,189 database producers and are distributed to the public by 362 different vendors. (2, 12)

There are three major categories of databases: reference, full-text and source. However, the boundary layers amongst these three are becoming more and more diffuse.

1) Reference (bibliographic) databases contain information which refers to articles, books, proceedings and reports. (1, 26); they do not contain complete articles or extensive numeric data. In addition to providing a list of citation or references (as in a bibliography) these databases may provide additional descriptive information in keywords and abstracts. The names of several resource related databases are Range Management, Forest, Pest Control Literature Documentation, Agricola, Acid Rain Data Base, Tropag, Paperchem and CAB (Forestry Abstracts).

2) Full-text databases consist of entire published works and the complete text of articles, newsletters, newspapers, news releases, encyclopedias, laws, regulations, legal codes, books and other materials (sans photography, certain illustrations and other types of graphics). Sources available include the Harvard Business Review, Academic American Encyclopedia,

Kirk-Othmer Encyclopedia of Chemical Technology and the eighteen core journals published by the American Chemical Society.

- 3) Source (numeric) databases provide actual data, sometimes with statistical analysis and often in time series. Examples of information on source databases include airline schedules, census materials, stock market quotes, commodities and chemical fate. Typical files are Forest Products Data Bank, Public Land Statistics, Timber Mart South Data Bank and the Random Lengths Data Bank.
- (For additional information on available databases refer to Appendix VIII, A Selective List of Online Database Guides and Directories.)

These 2400+ databases are accessible under the aegis of the larger systems known as vendors or distributors. These vendors rarely gather the information in these databases, rather they contract to purchase the information from the many separate databases. (25, 137) The three largest bibliographic vendors are Dialog, BRS and SDC.

(For additional information on database distributors consult Appendix III, Appendix IV and reference (3, 48).)

DATABASE ACCESS

"The use of computer systems for locating information sources (as well as for information itself) is becoming more and more wide spread." (7, 1) Until recently only librarians and extensively trained specialists searched in these online databases but the advent of reduced-rate services, front-end search software and gateway systems (17, 215) has encouraged the increasing use of these databases by novices, or end-users. Individuals whose primary work does not focus around information retrieval search these databases to: "add search skills to their basic micro repertoire of word processing, spread sheet analysis and graphics" (9, 13); find answers in response to specific discrete needs; generate tailored subject bibliographies at their convenience; and expand their information seeking base beyond personal reprint files, consultation with colleagues and browsing familiar publications.

Online searching is a skill which can be perceived, taught and learned. Adequate training which emphasizes the sequences, logic and controls of searching and encompasses topic selection and narrowing, use of concepts, choice of vocabulary, system command features, choice of database and interpretation of results will reinforce proper search habits and guarantee the formation of better search strategies. A

capable searcher can quickly compile customized and confidential bibliographies. The interactive nature of online systems, the increased number of access points and the ability to combine concepts are also distinct advantages to searching.

However, while "information retrieval systems are powerful tools, their usefulness is limited by the ability of the searcher to operate them." (4, 13) Infrequent or insecure users will make mistakes and fail to fully capitalize on the system's capabilities. Several other practical reasons for improper or inadequate use of a database are: lack of search aids and other documentation; failure to keep abreast of current developments, additions and changes to online files; and overt reliance on the online system to the exclusion of other information sources.

Direct access to online databases begins with a brief evaluation of your information needs:

What kind of information do you hope to find online?

Why do you want to pursue this course over other alternatives?

How often will you use the system?

What is your budget for this activity?

Thinking about and answering these questions can place your

needs and desires in perspective with the realities of particular system capabilities, content and cost. If you decide to search you also need to examine your capabilities and preparedness for an online search. Minimum hardware needs include a telephone line, a printer and/or downloading capability, and a personal computer with modem, word processor with modem, or a terminal with dial-up capability. Choice of software, familiarity with the database, previous experience or training and the availability of documentation or toll free assistance lines are other important factors to consider. Obstacles to searching include deciding where to search, logon arrangements, system language, subject indexing and lack of access to original documents. (12, 224)

Additional considerations and suggestions on getting started with online searching are addressed by Cason (6), Hunter (11) and Kolner (14; 15).

ACCESS SOFTWARE

Accessing online information with a microcomputer involves three main interfaces - the telecommunications link, access to a vendor (password usually required) and the use of commands, menus or natural language to draw the information from a particular database. (Appendix I). Communications packages will carry you to the doorstep of the vendor,

database specific packages let you prepare and input your search in advance but restrict you to particular databases (17, 216) and multi-system packages act as complete interfaces with the ability to access many databases from different vendors and translate a plain English statement into the command language of the system being searched (16, 67). The latter systems have removed the onus of the need to memorize different commands and system protocols; they also permit both uploading and downloading. Levy (16), Markoff (18) and Tenopir (22) discussed and evaluated some of the access software described in Appendix II.

Most front-end software for database access is expensive and many of the packages "seem to do a lot of things adequately but nothing excellently" (19, 94) One method to avoid that shortcoming is to use user-friendly systems.

USER-FRIENDLY SYSTEMS

There are four search systems on the market which are exceedingly easy to understand and use. They are Dialog's Knowledge Index, BRS's After Dark and BRKTHRU, and EasyNet. The features and capabilities of After Dark (AD) and Knowledge Index (KI) are compared in Appendix IV and V. Tenopir (23) also provides a detailed analysis of the two systems. Basically, AD and KI are limited versions of their

parent systems, BRS and Dialog. They contain simplified commands, allow access to fewer databases and charge less for their services. Designed for, and marketed towards the end-user market, these two systems are more than adequate for most basic information needs. Note Appendix VI for a sample BRS/AD search.

BRKTHRU is a new service offered by BRS which had its debut on April 1, 1985. BRKTHRU resembles a cross between the services and costs of After Dark and the full-fledged searching system of BRS. Initial reviews of the system have been positive and indicate that it is straightforward, powerful and effective.

EasyNet occupies a unique position in the online search market. It is the only retrieval service which doesn't require passwords, subscription agreements, start-up costs, or previous knowledge and training in searching. A single phone call connects anyone with a modem-equipped microcomputer to hundreds of reference, textual and source databases. (See Appendix VII) EasyNet selects the database to search based upon a rigid sequence and requires a valid charge or credit card for billing purposes. One critic of systems such as EasyNet and various gateway packages believes that they are deceiving and may mislead the novice searcher

into believing that the quality of their search is very thorough and complete (20, 5).

FILE MANIPULATION

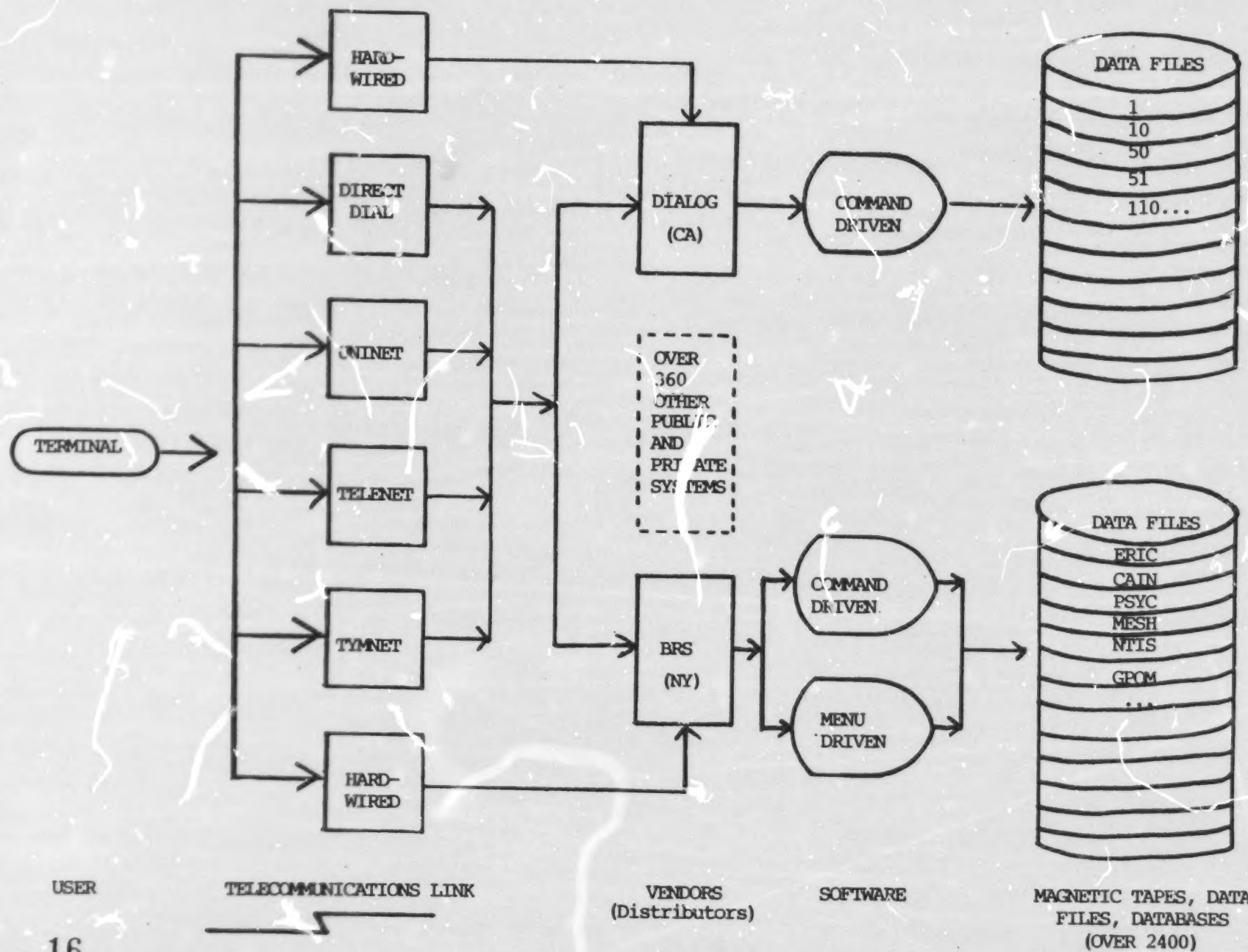
It is frustrating to search an electronic database, make a printout and then re-key selected references to create a personal database, especially when searching with a microcomputer gives you the option of downloading. However, unorganized and inaccessible downloaded data is useless until it can be edited and reformatted with personal bibliographic file managers. (Appendix IX). These software packages permit users to trap the information they retrieve and prepare customized local databases. Downloading, when used for personal files and not for re-sale or profit, is an acceptable way of capitalizing on available information technologies by allowing the information to be placed in its most useful format. An individual's idiosyncratic bibliographic information needs and management techniques can be accommodated by these managers. Their use and prominent role in a personal information system draws attention to the need for an interface "with other information handling systems such as electronic mail, teleconferencing and word processing." (5, 48) The goal is a personal information system which allows for individual expression and flexibility integrated into the framework of the overall information environment.

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MICROCOMPUTER ACCESS TO ONLINE INFORMATION



SELECTED ACCESS SOFTWARE FOR ONLINE INFORMATION SYSTEMSCOMMUNICATIONS PACKAGES

Cross Talk 15 \$195.00

Microstuf, Inc.
1845 The Exchange, Suite 140
Atlanta, GA 30339
404-952-0267

Hayes Smartcom II \$119.00

Hayes Microcomputer Products, Inc.
5923 Peachtree Industrial Blvd.
Norcross, GA 30092
404-449-8791

InstantCom Com \$120.00

Instant Information, Inc.
820 Boca Raton
Lake Oswego, OR 97034
503-635-8572

For additional information consult: All About 148 Communications Software Packages 1984, 58pp, \$25.00. Datapro Research Corporation, 1805 Underwood Blvd., Delran, NJ 08075.

DATABASE SPECIFIC PACKAGES (operates in only one particular database or family of databases)

MicroDisclosure (Disclosure files) \$250.00

Disclosure, Inc.
5161 River Road
Bethesda, MD 20816
800-638-8076

Search-Helper (6 IAC databases) \$1250.00/yr. (gives you 300 searches of 20 references each)

Information Access Company
11 Davis Dr.
Belmont, CA 94002
800-227-8431

APPENDIX II b

SYSTEM SPECIFIC PACKAGES (operates in only one particular system or vendor, but permits access to all of the databases within that system)

In-Search (Dialog) \$399.00

Menlo Corporation
4633 Old Ironside Drive
Santa Clara, CA 95050
408-986-1200

Micro Cambridge (Dialog) \$50.00 (Permits downloading and later manipulation with a word-processing package)

CSA Marketing
5161 River Road
Bethesda, MD 20816
800-638-8076

Searchmaster (SDC but permits access to NLM, BRS & Dialog) \$299.00

SDC Information Services
2500 Colorado Ave.
Santa Monica, CA 90406
213-453-6194

MULTI-SYSTEM PACKAGES (gateways which operate in several systems and permit access to a wide range of databases)

BCN Telegate (10+ vendors) \$39.95 (must be used with BCN Telpath, \$100.00)

Business Computer Network, Inc.
1046 South Central Parkway
San Antonio, TX 78247
800-446-6255

PC/Net-Link (10+ vendors) \$550.00

Informatics General Corp.
Library Services Division
6011 Executive Blvd.
Rockville, MD 20852
800-638-6595

APPENDIX II c

PRO-Search (DLG & BRS) \$495.00

Menlo Corp.
4633 Old Ironsides
Suite 400
Santa Clara, CA 95054
800-221-4237

Sci-Mate Universal Online Searcher (DLG & BRS) \$440.00

Institute for Scientific Information
3501 Market Street
University City Science Center
Philadelphia, PA 19104
800-523-4052

APPENDIX III

MAJOR VENDORS/DISTRIBUTORS OF DATABASES

1. BIBLIOGRAPHIC RETRIEVAL SERVICES
(BRS, BRS After Dark, BRK THRU)
1200 Route 7
Latham, NY 12110
(800) 833-4707
2. CompuServe, Inc.
5000 Arlington Centre Blvd.
Columbus, OH 43220
(800) 843-8990
3. DATA RESOURCES, INC.
24 Hartwell Ave.
Lexington, MA 02173
(617) 861-0165
4. DIALOG INFORMATION SERVICES, INC.
(DIALOG, KNOWLEDGE INDEX)
3460 Hillview Ave.
Palo Alto, CA 94304
(800) 227-1927
5. NEWSNET, INC.
945 Haverford Rd.
Bryn Mawr, PA 19010
(800) 345-1301
6. PERGAMON INTERNATIONAL
INFORMATION CORPORATION (INFOLINE)
1740 Old Chain Bridge Rd.
McLean, VA 22101
(703) 442-0900
7. SDC INFORMATION SERVICES
SEARCHMASTER
2500 Colorado Ave.
Santa Monica CA 90406
(800) 421-7229
8. SOURCE TELECOMPUTING
CORPORATION
1516 Anderson Rd.
McLean VA 22102
(800) 336-3366

For additional information refer to A Selective List of Online Database Guides and Directories in the Appendix.

COMPARISON OF SELECTED ONLINE SYSTEMS*

Database Vendor	No. of Databases	Hours Available (approx.)	Cost (online & start-up)	Menu-driven	Online Ordering	Special Features	Limitations
BRS	80+	6am-4am M-Sat.; Sun. 6am-2am 7pm-4am	\$50 + \$35/hr. + royal ties + telecomm.	no	no	SDI	Must know search language.
DIALOG	260+	3:30 am- midnight (M-F) 8am-8pm Sat.	Depending on database \$25-300/hr. + telecomm.	no	yes	SDI	Must know search language.
BRS/ After Dark	41	6pm-4am M-F; 6am- 2 pm Sat.; 7-4am Sun.	\$75 + \$6-20/hr depending on database	yes	no	Eleo. mail, full text dbs; software de- livery, shop- at-home pro- grams planned	Minimum monthly charge, less flexible, fewer databases/ commands.
Knowledge Index	23	6pm-5 am M-Th; 6 am- midnight Fri., 8-midnt. Sat. 3pm-5am Sun.	\$35 + \$24/hr.	no	yes	Simplified search lang- uage, 2 hrs free use.	Limited number of commands, must know search lang- uage, few databases.
BRS BRKTHRU	65	same as BRS (see above)	same as BRS + dis- count rates for nonpeak hrs, no monthly min.	yes	no	For the end- user, <u>very</u> easy/quick to learn,	System came up 4/85; too new for evaluation

* This chart was originally compiled by staff at the Albert R. Mann Library and was revised/updated 4/85 by Cynthia Foley, Olin Library, Cornell University.

Comparison of BRS/After Dark with DIALOG'S Knowledge Index

	BRS/After Dark	Knowledge Index
Type of System:	Menu driven	Command driven
Hours available:	M-F: 6pm-4am Sat.: 6am-2pm Sun.: 6am-2pm and 7pm-4am Total: 89 hours	M-T: 6pm-5am, F-midnight Sat.: 8am-midnight Sun.: 3pm-5 am Total: 80 hours
No. of Databases:	41	23
Commands: by function	m - to return to menu d - to call up a database by category or by name. s - to search a term or terms. N/A p - to print 1st reference online. RETURN or ENTER (key) to print each subsequent reference online.* r - to review entire search strategy online.	N/A begin(b) - to call up a database by section or by name. find (f) - to find a term or terms. expand(e) - same as in regular DIALOG system display(d) - to print 1st reference online. display(d) - to print each subsequent ref online Recap - to review entire search strategy online.
Boolean Logic:	and or not	and or not
Phrase Searching:	YES - free text only e.g. online retrieval systems	YES - free text only e.g. online retrieval systems
Truncation:	YES - e.g. system\$	YES - e.g. system?
Offline Printing:	NO	NO
Connect cost displayed:	NO	YES
Online Ordering	NO	YES
Electronic Mail:	YES	YES

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APPENDIX VI a

SAMPLE BRS AFTER DARK LOGIN AND SEARCH

*SIGN-IN 20.52.05

02/19/83

WELCOME TO BRS AFTER DARK

PLEASE TYPE IN SCREEN LINE LENGTH (20, 40, OR 80) 30
 PLEASE TYPE IN THE NUMBER OF LINES ON YOUR
 SCREEN (20,21,22, ETC.) 33
 CHECK MENU ITEM 6 FOR INFORMATION ON NEW
 AFTER DARK DATABASES AND SYSTEM ENHANCEMENTS.

TONIGHT'S MENU IS:

NUMBER	ITEM
1	LOOKING FOR INFORMATION?...SEARCH SERVICE
2	WANT TO HEAR THE LATEST?...NEWSLETTER SERVICE
4	KEEP IN TOUCH!...ELECTRONIC MAIL SERVICE
6	WHAT'S NEW?...NEW SYSTEM FEATURES
7	WANT TO CHANGE YOUR SECURITY PASSWORD?... SECURITY

TYPE IN MENU ITEM NUMBER THEN HIT ENTER KEY FOR DESIRED SELECTION

XX → 1
 YOU ARE NOW CONNECTED TO THE BRS AFTER DARK SEARCH SERVICE.
 THE FOLLOWING CATEGORIES OF DATABASES ARE AVAILABLE FOR
 SEARCHING.

CATEGORY	DESCRIPTION
1	SCIENCE AND MEDICINE DATABASES
2	BUSINESS AND FINANCIAL DATABASES
3	REFERENCE DATABASES
4	EDUCATION DATABASES
5	SOCIAL SCIENCE AND HUMANITIES DATABASES

TYPE IN CATEGORY NUMBER THEN HIT ENTER KEY FOR CATEGORY OF DATABASES DESIRED.

XX → 1
 SCIENCE AND MEDICINE DATABASES

DATABASE NAME	LABEL
AGRICOLA	CAIN
ACT (AMERICAN CHEMICAL SOCIETY)	CTX
JOURNALS ONLINE	
Biosis PREVIEW	BIOI (1978 TO DATE)
	BIOB (1970-1977)
CHEMICAL ABSTRACTS	CHEM (1977 TO DATE)
	CHEB (1970-1976)
HEALTH PLANNING & ADMINISTRATION	HLTH
INSPEC	INSP
INSPEC BACKFILE	INSB
INTERNATIONAL PHARMACEUTICAL ABSTRACTS	IPAB
IRCS MEDICAL SCIENCE DATABASE	IRCS
KIRK-OTTMER ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY	KIRK
MATHEMATICAL REVIEWS	MATH
MEDLARS	MESH (1979 TO DATE)
	MS78 (1975-1978)
	MS74 (1971-1974)
	MS70 (1966-1970)
MEDICAL AND PSYCHOLOGICAL PREVIEW	MPPS
DATABASE	
NATIONAL TECHNICAL INFORMATION SERVICE	NTIS
ROBOTICS INFORMATION	RBOT

TYPE IN LABEL FOR DATABASE DESIRED:

XX → biol
 WOULD YOU LIKE INSTRUCTIONAL PROMPTS? PLEASE TYPE
 YES OR NO: yes
 WOULD YOU LIKE A DESCRIPTION OF THE DATABASE? (YES OR NO)
 XX → yes

The BRS/Biosis Previews database provides easy access to
 biological and medical information gathered from government
 documents, journals and books, as well as hard-to-find
 symposia and proceedings. Produced by BioSciences
 Information Services this database covers biology,
 research medicine, taxonomy and instrumentation from
 1978 to date and is updated monthly. For biological
 information from 1970-1977 use the database label BIOB.

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APPENDIX VI b

COONS - 21

BRS/BIOL/1978 - MAR 1985

TYPE IN SEARCH TERM, OR ENTER COMMAND:

M TO RETURN TO MASTER MENU, D TO CHOOSE NEW DATABASE,
OR Q TO SIGN OFF.

S1 → irradiat\$ food\$1 or food\$1 irradiat\$ or radiation preserv\$

A1 64 DOCUMENTS FOUND

TYPE IN SEARCH TERMS, OR ENTER COMMAND

P TO PRINT DOCUMENTS FOUND, R TO REVIEW SEARCH QUESTIONS,

M TO RETURN TO MASTER MENU, D TO CHOOSE NEW DATABASE,

OR Q TO SIGN OFF.

S2 → preservation or preserve\$1

A2 12577 DOCUMENTS FOUND

TYPE IN SEARCH TERMS, OR ENTER COMMAND

P TO PRINT DOCUMENTS FOUND, R TO REVIEW SEARCH QUESTIONS,

M TO RETURN TO MASTER MENU, D TO CHOOSE NEW DATABASE,

OR Q TO SIGN OFF.

S3 → 1 and 2

A3 17 DOCUMENTS FOUND

TYPE IN SEARCH TERMS, OR ENTER COMMAND

P TO PRINT DOCUMENTS FOUND, R TO REVIEW SEARCH QUESTIONS,

M TO RETURN TO MASTER MENU, D TO CHOOSE NEW DATABASE,

OR Q TO SIGN OFF.

S4 → 3 and 2n,12

A4 13 DOCUMENTS FOUND

TYPE IN SEARCH TERMS, OR ENTER COMMAND

P TO PRINT DOCUMENTS FOUND, R TO REVIEW SEARCH QUESTIONS,

M TO RETURN TO MASTER MENU, D TO CHOOSE NEW DATABASE,

OR Q TO SIGN OFF.

S5 → 2

ENTER A SEARCH QUESTION TO PRINT FROM (E.G. 1 OR 2, ETC.)

XX → 4

ENTER S FOR SHORT PRINT FORM, M FOR MEDIUM PRINT FORM,

OR HIT ENTER FOR LONG PRINT FORM.

XX → 1

ENTER DOCUMENT NUMBER(S) TO BE PRINTED. USE

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OR ENTER INDIVIDUAL NUMBER (X). TYPE ALL TO

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XX → 9

AM 68047335. 7900.

AU JOSEPHSON-E-S. THOMAS-M-H. CALHOUN-W-K.

TI NUTRITIONAL ASPECTS OF FOOD IRRADIATION AN OVERVIEW.

SO J FOOD PROCESS PRESERV.

2 (4). 1979. 299-314.

YR 79.

CD JFPPD.

KW PROTEIN LIPID CARBOHYDRATE VITAMINS LOW TEMPERATURE HOLDING.

MJ FOOD TECHNOLOGY: GENERAL STUDIES, METHODS (MJ13502).

RADIATION BIOLOGY: RADIATION EFFECTS, PROTECTIVE MEASURES (MJ06506).

NUTRITION: GENERAL STUDIES, NUTRITIONAL STATUS, METHODS (MJ13202).

FOOD TECHNOLOGY: EVALUATIONS OF PHYSICAL AND CHEMICAL PROPERTIES

(MJ13530).

FOOD TECHNOLOGY: PREPARATION, PROCESSING, STORAGE (MJ13532).

MM RADIATION BIOLOGY: RADIATION ISOTOPE TECHNIQUES (MM06504).

COMPARATIVE BIOCHEMISTRY: GENERAL STUDIES (MM10010).

BIOCHEMISTRY: GASES (MM10012).

BIOCHEMICAL METHODS: GENERAL (MM10050).

BIOCHEMICAL STUDIES: GENERAL (MM10060).

BIOCHEMICAL STUDIES: VITAMINS (MM10063).

BIOCHEMICAL STUDIES: PROTEINS, PEPTIDES, AMINO ACIDS (MM10064).

BIOCHEMICAL STUDIES: LIPIDS (MM10066).

BIOCHEMICAL STUDIES: CARBOHYDRATES (MM10068).

EXTERNAL EFFECTS: TEMPERATURE (MM10614).

EXTERNAL EFFECTS: COLD (MM10616).

NUTRITION: VITAMINS, GENERAL (MM13207).

NUTRITION: CARBOHYDRATES (MM13220).

NUTRITION: LIPIDS (MM13222).

NUTRITION: PROTEIN, PEPTIDES, AMINO ACIDS (MM13224).

TEMPERATURE: GENERAL, METHODS (MM23001).

TEMPERATURE: CRYOBIOLOGY (MM23004).

LG ENGLISH (EN).

IN DEP. NUTR. FOOD SCI., MASS. INST. TECHNOL., CAMBRIDGE, MASS. 02139.

USA.

AB When foods are exposed to ionizing radiation under conditions envisioned for commercial application, no significant impairment in the nutritional quality of protein, lipid and carbohydrate constituents was observed. Irradiation was no more destructive to vitamins than other food preservation methods. Protection of nutrients is improved by holding the food at low temperature during irradiation and by reducing or excluding free O2 from the radiation milieu.

END OF DOCUMENT. HIT ENTER TO SEE NEXT DOCUMENT, OR

TYPE ANOTHER DOCUMENT NUMBER, OR

TYPE S TO CONTINUE SEARCHING, P TO PRINT DOCUMENTS FOUND,

R TO REVIEW SEARCH QUESTIONS, M TO RETURN TO MASTER

MENU, D TO CHOOSE NEW DATABASE, OR Q TO SIGN OFF.

APPENDIX V.I

EASYNET SAMPLE SEARCH SCREENS

PRESS	TO CHARGE MY
1	VISA
2	MasterCard
3	EasyNet account
-	

Fees for searching EasyNet can be charged against a personal credit card or EasyNet account.

PRESS	TO SELECT
1	Subject
2	Person
3	Place
4	Organization
H	Help
-	

Selection of one of the above starts the user on the ultimate selection of the appropriate database.

PRESS	TO SELECT
1	News, Sports
2	Business, Economics
3	Science, Technology, Medicine
4	Education
5	Law, Social Sciences
6	Art, Music, Books, Film, TV
7	Religion, Philosophy
H	Help
-	

Each successive screen refines the choice of the most appropriate database.

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Source: Information Today 2 (3): 6. March 1985

APPENDIX VIII a

A SELECTIVE LIST OF ONLINE DATABASE GUIDES AND DIRECTORIES

1. Chan, P.W., ed. 1985. The North American Online Directory 1985: A Directory of Information Products and Services with Names and Numbers. 265 pp. \$75.00

R.R. Bowker Company, 205 E. 42nd St., New York, NY 10017, 212-916-1600.
2. Chen, C-C and Hennon, P., ed. 1984. Numeric Databases. 320 pp. \$29.95.

Ablex Publishing Corporation, 355 Chestnut Street, Norwood, NJ 07648, 201-767-8450.
3. Cuadra, C. Directory of Online Databases, 1979 to date. This is a quarterly publication. It will have an online version up May 1985. Pagination varies. \$75.00

Cuadra Associates, 2001 Wilshire Blvd., Suite 305, Santa Monica, CA 90403, 213-829-9972.
4. Datapro Research Corporation. 1985. The Datapro Complete Guide to Dial-up Databases. 3rd ed. 600 pp. \$195.00.

Datapro Research Corporation, 18.5 Underwood Blvd., Delran, NJ 08075, 609-764-0100.
5. Datapro Research Corporation. 1982 to date. Datapro Directory of On-line Services. 2 vol., loose-leaf with monthly updates. \$395.00

Datapro Research Corporation, 1805 Underwood Blvd., Delran, NJ 08075, 609-764-0100
6. Edelhart, M. and Davies, O. 1983. Omni Online Database Directory. 292 pp. \$9.95.

Collier Books, Macmillan Pub. Co., Inc. 866 Third Ave., NY, NY 10022, 212-935-2000
7. Hoover, R.E. 1984. Executive's Guide to Online Information Services. 296 pp. \$24.95.

Knowledge Industry Pubns, Inc., 701 Westchester Ave., White Plains, NY 10604, 914-328-9157
8. Howitt, D. and Weinberger, M. 1984. Databasics: Your Guide to Online Business Information. 606 pp. \$16.95.

Garland Publishing, 136 Madison Ave., New York, NY 10016, 212-686-7492

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APPENDIX VIII b

9. Knowledge Industry Publications and American Society for Information Science, eds. 1984. Data Base Directory 1984-85. 600 pp. \$120.00.

Knowledge Industry Pubns, Inc., 701 Westchester Ave., White Plains, NY 10604. 914-328-3157
10. Lesko, M. 1984. The Computer Data and Database Source Book. 768 pp. \$14.95.

Avon Books, 1790 Broadway, New York, New York 10013, 213-339-4500
11. Lewis, S. 1984. Plugging In: The Microcomputerist's Guide to Telecommunications. 192 pp. \$11.95.

Chilton Book Company, Radnor, PA 19089, 800-345-1214.
12. National Technical Information Service. 1984. A Directory of Computerized Data Files (PB 84-160126). 321 pp. \$25.00.

U.S. Dept. of Commerce, 5285 Pt. Royal Rd., Springfield, VA 22161, 703-487-4650
13. Newlin, B. 1985. Answers Online: Your Guide to Informational Databases. 373 pp. \$16.95.

Osborne McGraw-Hill, 2600 Tenth St., Berkeley, CA 94710. 415-548-2805
14. Shafritz, J.M. and Alexander, L. 1984. Reston Directory of Online Data Bases. 256 pp. \$17.95.

Reston Publishing Company, Inc., 11480 Sunset Hills Rd., Reston, VA 22090. 703-437-8900
15. Zarozny, S. and Horner, M. 1984. The Federal Data Base Finder: A Directory of Free and Fee-based Data Bases and Files Available from the Federal Government. 368 pp. \$95.00.

Information, USA, Inc. 12400 Beall Mountain Road, Potomac, MD 20854, 301-983-8220

APPENDIX IX

Recommended Personal Bibliographic File Managers*1. Finder, FinderLink, Search Companion (\$1500.00)

Aaron/Smith Associates, Inc.
1422 W. Peachtree St. NW
Atlanta, GA 30309
404-876-0085

2. Notebook (\$270.00)

Pro/Tem Software, Inc.
2363 Boulevard Circle
Walnut Creek, CA 94595
800-826-2222

3. Personal Bibliographic System (\$250.00)

Personal Bibliographic Software, Inc.
P.O. Box 4250
Ann Arbor, MI 48106
313-996-1580

4. Reference Manager (\$660.00)

Research Information Systems
2707 Costebelle Drive
LaJolla, CA 92037
619-457-4027

5. Sci-mate Personal Data Manager (\$540.00)

Institute for Scientific Information
3501 Market Street
Philadelphia, PA 19104
800-523-4092

*Additional packages are listed in Burton, H.D., 1985, "The Changing Environment of Personal Information Systems," Journal of the American Society for Information Science, 36(1): 48-52. Also this summer or fall PC Magazine will contain a selected review of bibliographic file managers authored by Kathy Chiang, Howard Curtis, and Linda Stewart.